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COMMENTARY

Syndemic Perspectives to Guide Black Maternal Health Research and Prevention During the COVID-19 Pandemic

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Abstract
The coronavirus 2019 (COVID-19) pandemic and related policies have led to an unequal distribution of morbidity and mortality in the U.S. For Black women and birthing people, endemic vulnerabilities and disparities may exacerbate deleterious COVID-19 impacts. Historical and ongoing macro-level policies and forces over time have induced disproportionately higher rates of maternal morbidity and mortality among Black women and birthing people, and contemporary macroeconomic and healthcare policies and factors continue to hold particular consequence. These factors induce detrimental psychological, health, and behavioral responses that contribute to maternal health disparities. The COVID-19 pandemic is likely to disproportionately impact Black women and birthing people, as policy responses have failed to account for the their unique socioeconomic and healthcare contexts. The resulting consequences may form a 'vicious cycle', with upstream impacts that exacerbate upstream macro-level policies and forces that can further perpetuate the clustering of maternal morbidity and mortality in this population. Understanding the impacts of COVID-19 among Black women and birthing people requires theoretical frameworks that can sufficiently conceptualize their multi-level, interacting, and dynamic nature. Thus, we advocate for the proliferation of syndemic perspectives to guide maternal disparities research and prevention during the COVID-19 pandemic. These perspectives can enable a holistic and nuanced understanding of the intersection of endemic and COVID-19-specific vulnerabilities and disparities experienced by Black women and birthing people. Syndemic-informed research can then lead to impactful multi-level prevention strategies that simultaneously tackle both endemic and COVID-19-specific factors and outcomes that lead to the clustering of vulnerabilities and disparities over time.

Keywords COVID-19 · Syndemic · Maternal health services · African american · Maternal mortality

Significance

What is Already Know on This Subject?

Black women and birthing people are more likely to die from pregnancy-related causes than white women in the United States. Emerging evidence suggests that the COVID-19 pandemic and related policies have exacerbated racial maternal health disparities and worsened Black maternal health.

What This Study Adds?

This paper advocates for the proliferation of syndemic perspectives to guide maternal disparities research and prevention during the COVID-19 pandemic. Syndemic perspectives can conceptualize the array of endemic and COVID-19-specific vulnerabilities and disparities among Black women and birthing people, and this understanding can lead to high-impact prevention strategies.

Introduction

The coronavirus 2019 (COVID-19) pandemic, along with the numerous policy changes that it has triggered, has led to an unequal distribution of morbidity, mortality, and other consequences in the U.S. For populations with existing vulnerabilities and endemic disparities across racial/ethnic, sex/

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gender, life course, and socioeconomic lines, the impacts of COVID-19 have been especially pronounced (Singer 2013; Gausman and Langer 2020; Raifman and Raifman 2020). Black women and birthing people (BWBP),[1] who have been burdened by long-standing population-level maternal morbidity and mortality vulnerabilities and disparities, are typically at the intersection of most or all of these and other demarcations, and emerging evidence suggests that these same characteristics may similarly intersect to exacerbate deleterious COVID-19 impacts, such as maternal morbidity and mortality (Zaigham and Andersson 2020).

Understanding the complex intersection of endemic and COVID-19-specific vulnerabilities and disparities experienced by BWBP requires theoretical frameworks that can overcome the limitations of prevalent epidemiological, biomedical, and public health frameworks (Singer 2013; Mendenhall 2017) and holistically conceptualize the multi-level, interacting, and dynamic nature of the impacts of COVID-19 and corresponding policy changes. Thus, we advocate in this manuscript that is not based upon clinical study or patient data for the proliferation of *syndemic perspectives* to guide maternal disparities research and prevention during the COVID-19 pandemic. Syndemic perspectives can provide researchers with a theoretical grounding to advance scientific inquiry into the interacting, multi-level, and co-occurring maternal health afflictions that have emerged from dynamic macro-level policies and forces that have led to the clustering of health disparities among pregnant Black women over time. Further, these perspectives can shed light on how these endemic policies, forces, and afflictions, along with novel COVID-19-specific factors and outcomes, may synergistically perpetuate population-level vulnerabilities and exacerbate disparities, with upstream impacts that constitute 'vicious cycles'. Syndemic-informed research can then lead to holistic, multi-level prevention strategies that simultaneously tackle both endemic and COVID-19-specific factors and outcomes that lead to the clustering of vulnerabilities and disparities over time.

Endemic Vulnerabilities and Disparities among Black Women and Birthing People

Macro-level macroeconomic, healthcare, and other policies and forces over time have contributed to disproportionately higher rates of maternal morbidity and mortality among BWBP in the U.S. Longstanding structural inequities, driven by systemic racism, have created barriers that have made it difficult to secure jobs that provide livable wages, opportunity for advancement, and pay comparable to White counterparts. These inequalities are especially relevant, as most Black women (81%) of single and married households in the U.S. are the primary economic support for their families (Anderson 2016). Due to systemic gendered racism in the workforce and other multi-level and longstanding economic forces, Black women earn $0.62 for every dollar that a White man earns (National Partnership for Women & Families 2020). This structural economic disparity differentially impacts BWBP from varying economic backgrounds. For example, BWBP with lower income may have to reside in neighborhoods that induce stress related to safety or resource availability, while those individuals with middle to high incomes may reside in more affluent and oftentimes predominately White neighborhoods, which can induce stress related to racism and social isolation (Al-Bayan et al. 2016).

In the healthcare system, BWBP are disproportionately impacted by policy changes (e.g., efforts to scale back Affordable Care Act legislation) and consistently experienced discrimination or suffered the consequences of implicit racial bias (Davis 2019). These experiences can lead to mistrust and fear of the healthcare system and missed opportunities for the provision of high-quality care and patient education. This is crucial, considering the interaction of patient factors (e.g., presence of chronic health conditions) and provider/system factors (e.g., misdiagnosis; ineffective treatment; poorly coordinated care) are key contributors to preventable maternal morbidity and mortality (Building U.S. Capacity to Review and Prevent Maternal Deaths 2018).

These multi-level contextual factors induce detrimental psychological, health, and behavioral responses among BWBP and contribute to disparate maternal health outcomes through multiple mechanisms. One such mechanism is chronic exposure to stress resulting in the accumulation of allostatic load, which undermines the physical health and reproductive potential of BWBP (Lu et al. 2010). Moreover, even in the presence of social and structural supports, chronic exposure to unique stressors related to pervasive gendered racism may contribute to diminished mental well-being and coping behaviors that elevate risk for or exacerbate chronic health conditions (Suvarna et al. 2019) and exacerbate maternal morbidity and mortality risks. Another key mechanism is the impact of healthcare actions or inactions, rooted in systemic racism endemic to healthcare systems, on maternal morbidity and mortality (Hall et al. 2015).

[1] We use the term "birthing people" to recognize that not all people who have a uterus, become pregnant, and give birth identify as a woman or a mother.

Disproportionate and Exacerbatory Impacts of COVID-19 among Black Women and Birthing People

As the COVID-19 pandemic and corresponding policy changes continue to unfold in the U.S., they are likely to disproportionately impact vulnerable populations and perpetuate and worsen population-level morbidity and mortality disparities through novel and exacerbatory risks that will impact prone populations across racial/ethnic, sex/gender, life course, and socioeconomic demarcations due to deeply rooted macro-level racism/discrimination, macroeconomic, healthcare, and other forces (Singer 2013; Gausman and Langer 2020; Hooper et al. 2020; Mein 2020). In the United States, BWBP are typically at the intersection of these characteristics and thus are especially likely to experience disproportionate morbidity and mortality burden, and policy responses to COVID-19 have failed to account for the unique socioeconomic and healthcare contexts experienced by these populations.

The COVID-19 pandemic is likely to exacerbate existing socioeconomic disparities among BWBP and increase vulnerabilities to COVID-19 acquisition and transmission, especially those vulnerabilities related to employment in low-wage, 'essential' occupations. Because of an array of structural inequalities, including those caused by systemic racism, BWBP are more likely to experience lower socioeconomic status and low incomes (Mein 2020; Vahidy et al. 2020). Individuals with lower income are often employed in occupations that render them especially vulnerable to COVID-19 infection and transmission due to increased workplace exposures related to lack of sick leave, inadequate provision of personal protective equipment, and the inability to work from home (Bohn et al. 2020; Hooper et al. 2020; Mein 2020). These populations are also associated with higher rates of employment in jobs that have been classified as 'essential' and therefore have remained open during the pandemic (Bohn et al. 2020; Hooper et al. 2020; Raifman and Raifman 2020). Because low-income workers are vulnerable to and more likely to live in single-income households, they experience greater pressures to continue their participation in these occupations despite COVID-19 risks (Mein 2020). BWBP in particular are most commonly employed in essential healthcare, service, and education occupations that have been associated with heightened risks of COVID-19 infection (Baker et al. 2020; Bohn et al. 2020; Frye 2020; Gausman and Langer 2020). Policy responses to COVID-19 have forced the closures of daycare centers and schools and have caused additional financial hardships and psychosocial stress (Bohn et al. 2020; Gausman and Langer 2020). Further, physical distancing has appeared to have been more difficult to achieve for BWBP, as these individuals disproportionately live in households and neighborhoods with higher population densities and are more dependent on public transportation (Hooper et al. 2020; Mein 2020; Raifman and Raifman 2020; Vahidy et al. 2020).

The current pandemic and related policies are also likely to worsen existing healthcare inequities among BWBP, with multi-fold consequences for maternal well-being. Physical distancing policies have increased unemployment rates, with corresponding losses in income (Mein 2020). Because BWBP of all socioeconomic backgrounds systematically earn less than their White counterparts for the same amount of labor, losses in income can be especially stressful. Increases in unemployment have also led to losses in employer-based health insurance coverage (Mein 2020). These impacts are especially detrimental to low-income individuals, who are likely to forego preventive care that they are no longer able to afford; as a result chronic disease disparities may further increase over time (Kim et al. 2020). Healthcare and socioeconomic factors have led to disparities in COVID-19 testing and transmission that may also impact future COVID-19 vaccination rates (Mein 2020). For BWBP, COVID-19 policies have interfered with routine prenatal care appointments, and the consequences of the pandemic have likely reduced quality of care (Gausman and Langer 2020). The lack of knowledge about COVID-19 has led to ambiguities about how to best provide care and have led to policy decisions that have been consequential for maternal and infant health outcomes (Stuebe 2020). For example, geographically heterogeneous physical distancing policies designed to reduce potential exposure to COVID-19 have perpetuated social isolation among women and birthing people, with detrimental psychological (e.g., psychosocial stress) and physical (e.g., domestic violence) impacts (Gausman and Langer 2020). These policies have also made it more difficult for women and birthing people to acquire contraception or other obstetric and gynecologic medical procedures considered to be elective (Gausman and Langer 2020). Healthcare ambiguities may also pose a threat to the effective delivery of treatments or vaccines for BWBP (Gausman and Langer 2020). Further, concerns about the possibility of vertical transmission during childbirth or by breastfeeding, and parent-infant separation policies, may result in clinical decisions that can have negative impacts on maternal and child well-being (Stuebe 2020; Zaigham and Andersson 2020). For BWBP, who already experience disparities in maternal and infant morbidity and mortality, such clinical decisions may be especially detrimental.

As the impacts of COVID-19 and related policies interact with macroeconomic, healthcare, and other macro-level forces, all of which are entrenched in systemic racism, population-level comorbidities are likely to emerge that further widen disparities among BWBP.

Black Americans and low-income households have been found to have a higher risk of COVID-19 infection and associated comorbidities (Raifman and Raifman 2020; Stein and Ometa 2020; Vahidy et al., 2020). In particular, long-standing disparities in comorbidities such as cardiovascular, metabolic, respiratory, liver, and kidney diseases in racial and ethnic minority populations present enhanced risks for COVID-19 disease severity (Hooper et al. 2020; Mein 2020; Stein and Ometa 2020). Racial and ethnic minorities are also more likely to have existing diagnosed and undiagnosed medical conditions; for these individuals, they are faced with the dilemma of either seeking medical care and risking nosocomial COVID-19 acquisition, or delaying care and increasing future risk of more severe outcomes or complications (Kim et al. 2020). Psychological comorbidities related to COVID-19 and policies, especially novel and exacerbatory psychosocial stressors associated with disruptions to daily life, uncertainty about socioeconomic and other consequences, fear of COVID-19 acquisition, and physical distancing policies that have induced social isolation, are perpetuated by lack of access to mental health care among racial and ethnic minorities and existing disparities in general, maternal, and racism-related stressors experienced by BWBP during pregnancy (Gausman and Langer 2020; Stein and Ometa 2020). These stressors accompany existing disparities in general, maternal, and racism-related stressors experienced by BWBP during pregnancy, which are likely to be worsened due to novel COVID-19 risks of unintended pregnancies due to difficulties in obtaining contraception or related medical procedures and increased rates of domestic violence due to COVID-19 physical distancing policies (Dominguez et al. 2008; Gausman and Langer 2020).

Finally, the exacerbation of population-level vulnerabilities and disparities among BWBP due to COVID-19 and related policies may form a 'vicious cycle', with upstream impacts that reinforce and worsen upstream macro-level forces that perpetuate the clustering of maternal disparities (Stein and Ometa 2020). These impacts may play out across generations, with damaging prenatal and postnatal COVID-19 comorbidities creating consequences for parent and child across the life course that reinforce or exacerbate population-level socioeconomic and healthcare disparities and perpetuate the clustering of afflictions among BWBP (Gausman and Langer 2020; Kapur and Hod 2020). These upstream impacts are not limited to communicable diseases; for example, physical distancing policies that prohibit birthing with a companion present or require parent-infant separation can have prolonged impacts on the mental health of BWBP (Gausman and Langer 2020), and these impacts may induce upstream socioeconomic and healthcare consequences that perpetuate the vicious cycle of disproportionate maternal morbidity and mortality in this population.

Syndemic Perspectives to Guide COVID-19 Research and Prevention among Black Women and Birthing People

The exacerbatory and novel impacts of the COVID-19 pandemic and corresponding policy changes interact with existing macro-level vulnerabilities and endemic comorbidities to induce maternal health disparities among BWBP in the U.S., and these outcomes may create upstream impacts that further exacerbate these outcomes over time. Because prevalent theoretical perspectives cannot adequately conceptualize these complex and dynamic influences, *syndemic* perspectives are warranted in maternal health research and action to understand the intersection of endemic and COVID-19-specific vulnerabilities and disparities experienced by BWBP and guide preventive strategies. Further, although the focus of this paper is on BWBP in the U.S., syndemic perspectives can be harnessed across a wide array of geographic, demographic, and other demarcations to conceptualize the multilevel and interrelated impacts of COVID-19 and endemic disparities and vulnerabilities on maternal morbidity and mortality and inform high-leverage solutions.

Syndemics refer to the clustering of multiple afflictions within a population due to macro-level forces, where these co-occurring afflictions interact to exacerbate their detrimental impacts and create excessive population-level disease burden (Singer 2013; Singer et al. 2017). Syndemic perspectives can expand the theoretical lens through which endemic and COVID-related vulnerabilities and disparities are understood by embodying interactions among a diverse array of afflictions, including both communicable and non-communicable diseases, and interactions across multiple levels of influence. By understanding *syndemogenesis* (Singer et al. 2017) – the processes involved in the development and perpetuation of syndemics – these frameworks can facilitate conceptualizations of how extant and long-standing *syndemic risk factors* (Singer et al. 2017) – macro-level drivers that lead to the clustering of such afflictions – induce *syndemic vulnerabilities* (Singer et al. 2017) among BWBP that have led to the emergence of clusters of synergistic maternal health and other afflictions within these populations over time. Syndemic-informed COVID-19 maternal health research can then contextualize the novel and exacerbatory impacts of the pandemic and corresponding policy changes on BWBP within the long-standing and deeply rooted syndemic experienced by these populations. Syndemic frameworks can be especially powerful in understanding pandemics such as COVID-19, as epidemics typically emerge in conjunction with existing and dynamic macro-level vulnerabilities and co-occurring disease states to dramatically shape the impacts of infection and transmission within populations (Mendenhall 2017; Singer et al. 2017).

The holistic and nuanced understanding of the emergence and exacerbation of epidemics afforded by syndemic frameworks can be especially powerful for designing impactful preventive strategies to mitigate endemic and COVID-19 disparities among BWBP (Mendenhall 2017). Corresponding strategies can address the multifaced impacts the COVID-19 pandemic and related policies within endemic maternal health disparities, the historical and ongoing macro-forces that have induced them, and the potentially reinforcing nature of the resulting afflictions. Syndemic-informed strategies can then simultaneously tackle each co-occurring affliction and the macro-level syndemic risk factors that have initiated and perpetuated the syndemic vulnerabilities that shape the clustering of these afflictions over time (Mendenhall 2017; Singer et al. 2017). As a result, such strategies constitute innovative and holistic multi-level preventive efforts that hold the promise to be impactful and long-lasting in the face of deeply rooted and persistent maternal health disparities. For example, a syndemic-informed prevention initiative to address maternal health disparities by targeting lower breastfeeding rates among BWBP during COVID-19 could simultaneously address policies and structural factors that are endemic (e.g., economic pressures to return to the workforce) and COVID-19 related (e.g., disproportionate workplace exposures to COVID-19) that shape the clustering of low breastfeeding rates among BWBP, while also including components at the patient-level that encourage breastfeeding while also minimizing COVID-19 transmission risks related to parent-infant physical contact.

Conclusions

Macro-level policies and forces have disproportionately higher rates of maternal morbidity and mortality among BWBP in the U.S., and emerging evidence indicates that the COVID-19 pandemic and corresponding policy changes introduce novel and exacerbatory risks to these populations. Understanding the complex intersection of endemic and COVID-19-specific vulnerabilities and disparities experienced by BWBP requires syndemic frameworks to holistically conceptualize the multi-level, interacting, and dynamic nature of the impacts of COVID-19 and corresponding policy changes. Syndemic-informed strategies can then simultaneously tackle each co-occurring affliction and the macro-level syndemic risk factors that have initiated and perpetuated the clustering of these afflictions over time to mitigate endemic and emerging COVID-19 disparities among BWBP.

Compliance with Ethical Standards

Conflict of interest The authors declare that they have no conflict of interest.

References

Al-Bayan, M., Islam, N., Edwards, S., & Duncan, D. T. (2016). Neighborhood perceptions and hypertension among low-income black women: A qualitative study. *BMC Public Health, 16*(1), 1075.

Anderson, J. (2016). Breadwinner mothers by race/ethnicity and state. Retrieved from Washington, DC: https://iwpr.org/wp-content/uploads/wpallimport/files/iwpr-export/publications/Q054.pdf

Baker, M. G., Peckham, T. K., & Seixas, N. S. (2020). Estimating the burden of United States workers exposed to infection or disease: a key factor in containing risk of COVID-19 infection. *PLoS ONE, 15*(4), e0232452.

Bohn, S., Mejia, M.C., LaFortune, J. (2020). Essential works and COVID-19. https://www.ppic.org/blog/essential-workers-and-covid-19/

Building U.S. Capacity to Review and Prevent Maternal Deaths. (2018). Report from nine maternal mortality review committees. https://reviewtoaction.org/sites/default/files/national-portal-material/Report%2520from%2520Nine%2520MMRCs%2520final_0.pdf

Davis, D.-A. (2019). Obstetric racism: The racial politics of pregnancy, labor, and birthing. *Medical Anthropology, 38*(7), 560–573.

Dominguez, T. P., Dunkel-Schetter, C., Glynn, L. M., Hobel, C., & Sandman, C. A. (2008). Racial differences in birth outcomes: The role of general, pregnancy, and racism stress. *Health Psychology, 27*(2), 194–203.

Frye, J. (2020). On the frontlines of work and at home: The disproportionate economic effects of the Coronavirus pandemic on women of color. https://www.americanprogress.org/issues/women/reports/2020/04/23/483846/frontlines-work-home/

Gausman, J., & Langer, A. (2020). Sex and gender disparities in the COVID-19 pandemic. *Journal of Women's Health, 29*(4), 465–466.

Hall, W. J., Chapman, M. V., Lee, K. M., Merino, Y. M., Thomas, T. W., Payne, B. K., et al. (2015). Implicit racial/ethnic bias among health care professionals and its influence on health care outcomes: A systematic review. *American Journal of Public Health, 105*(12), e60–e76.

Hooper, M.W., Nápoles, A.M., Pérez-Stable, E.J. (2020). COVID-19 and racial/ethnic disparities. JAMA, E1-E2.

Kapur, A., Hod, M. (2020). Maternal health and non-communicable disease prevention: An investment case for the post COVID-19 world and need for better health economic data. International Journal of Gynecology & Obstetrics.

Kim, E. J., Marrast, L., Conigliaro, J. (2020). COVID-19: Magnifying the effect of health disparities. Journal of General Internal Medicine, 1.

Lu, M. C., Kotelchuck, M., Hogan, V., Jones, L., Wright, K., & Halfon, N. (2010). Closing the Black-White gap in birth outcomes: A life-course approach. *Ethnicity and Disease, 20*(102), 62–76.

Mein, S.A. (2020). COVID-19 and health disparities: The reality of The Great Equalizer. Journal of General Internal Medicine.

Mendenhall, E. (2017). Syndemics: A new path for global health research. *The Lancet, 389*, 889–891.

National Partnership for Women & Families. (2020). Black women and the wage gap. Washington, DC. https://www.nationalpartnership.org/our-work/resources/economic-justice/fair-pay/african-american-women-wage-gap.pdf

Raifman, M., & Raifman, J. (2020). Disparities in the population at risk of severe illness from COVID-19 by race/ethnicity and income. *American Journal of Preventive Medicine*. https://doi.org/10.1016/j.amepre.2020.04.003.

Singer, M. (2013). Development, coinfection, and the syndemics of pregnancy in Sub-Saharan Africa. *Infectious Diseases of Poverty, 2*(1), 26. https://doi.org/10.1186/2049-9957-2-26.

Singer, M., Bulled, N., Ostrach, B., & Mendenhall, E. (2017). Syndemics and the biosocial conception of health. *The Lancet, 389*, 941–950.

Stein, R.A., Ometa, O. (2020). When public health crises collide: Social disparities and COVID-19. International Journal of Clinical Practice, e13524-e13524.

Stuebe, A. (2020). Should infants be separated from mothers with COVID-19? First, do no harm. Breastfeeding Medicine.

Suvarna, B., Suvarna, A., Phillips, R., Juster, R.-P., McDermott, B., & Sarnyai, Z. (2019). Health risk behaviours and allostatic load: A systematic review. *Neuroscience and Biobehavioral Reviews, 108*, 694–711.

Vahidy, F.S., Nicolas, J.C., Meeks, J.R., Khan, O., Jones, S.L., Masud, F., Kash, B.A. (2020). Racial and ethnic disparities in SARS-CoV-2 pandemic: Analysis of a COVID-19 observational registry for a diverse US metropolitan population. medRxiv.

Zaigham, M., Andersson, O. (2020). Maternal and perinatal outcomes with COVID-19: A systematic review of 108 pregnancies. Acta Obstetricia et Gynecologica Scandinavica.